Unit 3-Interactive Animations and Games

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Department of Curriculum and Instruction

Belleville Public Schools

Curriculum Guide

Computer Science Discoveries, Grade 8

Interactice Animations and Games

Belleville Board of Education

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Unit Overview

In the Animations and Games unit, students build on their coding experience as they create programmatic images, animations, interactive art, and games. Starting off with simple, primitive shapes and building up to more sophisticated sprite-based games, students become familiar with the programming concepts and the design process computer scientists use daily. They then learn how these simpler constructs can be combined to create more complex programs. In the final project, students develop a personalized, interactive program. Along the way, they practice design, testing, and iteration, as they come to see that failure and debugging are an expected and valuable part of the programming process.

Enduring Understanding

Students build up toward programming interactive animations in the Game Lab environment. They begin with simple shapes and sprite objects, then use loops to create flipbook style animations. Next, they learn to use booleans and conditionals to respond to user input. At the end of the chapter, students design and create an interactive animation that they can share with the world.

Students combine the constructs that they learned in the first chapter to program more complex movement and collisions in their sprites. As they create more complex programs, they begin to use functions to organize their

code. In the end, students use a design process to create an original game.

Essential Questions

- What is a computer program?
- What are the core features of most programming languages?
- How does programming enable creativity and individual expression?
- What practices and strategies will help me as I write programs?
- How do software developers manage complexity and scale?
- How can programs be organized so that common problems only need to be solved once?
- How can I build on previous solutions to create even more complex behavior?

Exit Skills

By the end of Grade 8, Computer Science Discoveries Unit 3, the student should be able to:

- Determine what a computer program is.
- Understand the core features of most programming languages.
- Explain how programming enables creativity and individual expression.
- Develop practices and strategies to help write programs.
- Understand how software developers manage complexity and scale.
- Distinguish common problems in programs so they only need to be solved once.
- Build on previous solutions to create even more complex behavior.

New Jersey Student Learning Standards (NJSLS-S)

TECH.8.1.8	Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.
TECH.8.1.8.A	Technology Operations and Concepts: Students demonstrate a sound understanding of technology concepts, systems and operations.
TECH.8.1.8.A.3	Use and/or develop a simulation that provides an environment to solve a real world problem or theory.
TECH.8.1.8.A.CS1	Understand and use technology systems.
TECH.8.1.8.A.CS2	Select and use applications effectively and productively.
TECH.8.1.8.B	Creativity and Innovation: Students demonstrate creative thinking, construct knowledge and develop innovative products and process using technology.
TECH.8.1.8.B.CS1	Apply existing knowledge to generate new ideas, products, or processes.
TECH.8.1.8.B.CS2	Create original works as a means of personal or group expression.
TECH.8.1.8.C	Communication and Collaboration: Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.
TECH.8.1.8.C.CS2	Communicate information and ideas to multiple audiences using a variety of media and formats.
TECH.8.1.8.D	Digital Citizenship: Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.
TECH.8.1.8.D.1	Understand and model appropriate online behaviors related to cyber safety, cyber bullying, cyber security, and cyber ethics including appropriate use of social media.
TECH.8.1.8.D.2	Demonstrate the application of appropriate citations to digital content.
TECH.8.1.8.D.3	Demonstrate an understanding of fair use and Creative Commons to intellectual property.
TECH.8.1.8.D.4	Assess the credibility and accuracy of digital content.
TECH.8.1.8.D.5	Understand appropriate uses for social media and the negative consequences of misuse.
TECH.8.1.8.D.CS1	Advocate and practice safe, legal, and responsible use of information and technology.
TECH.8.1.8.D.CS2	Demonstrate personal responsibility for lifelong learning.
TECH.8.1.8.D.CS3	Exhibit leadership for digital citizenship.
TECH.8.1.8.F	Critical thinking, problem solving, and decision making: Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.
TECH.8.1.8.F.CS2	Plan and manage activities to develop a solution or complete a project.
TECH.8.1.8.F.CS3	Collect and analyze data to identify solutions and/or make informed decisions.
TECH.8.2.8	Technology Education, Engineering, Design, and Computational Thinking - Programming: All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.
TECH.8.2.8.A	The Nature of Technology: Creativity and Innovation: Technology systems impact every aspect of the world in which we live.
TECH.8.2.8.A.CS1	The characteristics and scope of technology.
TECH.8.2.8.A.CS2	The core concepts of technology.
TECH.8.2.8.A.CS3	The relationships among technologies and the connections between technology and other fields of study.

TECH.8.2.8.C	Design: The design process is a systematic approach to solving problems.
TECH.8.2.8.C.4	Identify the steps in the design process that would be used to solve a designated problem.
TECH.8.2.8.C.CS1	The attributes of design.
TECH.8.2.8.C.CS2	The application of engineering design.
TECH.8.2.8.D	Abilities for a Technological World: The designed world is the product of a design process that provides the means to convert resources into products and systems.
TECH.8.2.8.D.CS1	Apply the design process.
TECH.8.2.8.E	Computational Thinking: Programming: Computational thinking builds and enhances problem solving, allowing students to move beyond using knowledge to creating knowledge.
TECH.8.2.8.E.1	Identify ways computers are used that have had an impact across the range of human activity and within different careers where they are used.
TECH.8.2.8.E.2	Demonstrate an understanding of the relationship between hardware and software.
TECH.8.2.8.E.3	Develop an algorithm to solve an assigned problem using a specified set of commands and use peer review to critique the solution.
TECH.8.2.8.E.4	Use appropriate terms in conversation (e.g., programming, language, data, RAM, ROM, Boolean logic terms).
TECH.8.2.8.E.CS1	Computational thinking and computer programming as tools used in design and engineering.

Interdisciplinary Connections

LA.RI.8	Reading Informational Text
LA.RI.8.1	Cite the textual evidence and make relevant connections that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.
LA.RI.8.2	Determine a central idea of a text and analyze its development over the course of the text, including its relationship to supporting ideas; provide an objective summary of the text.
LA.RI.8.3	Analyze how a text makes connections among and distinctions between individuals, ideas, or events (e.g., through comparisons, analogies, or categories).

Learning Objectives

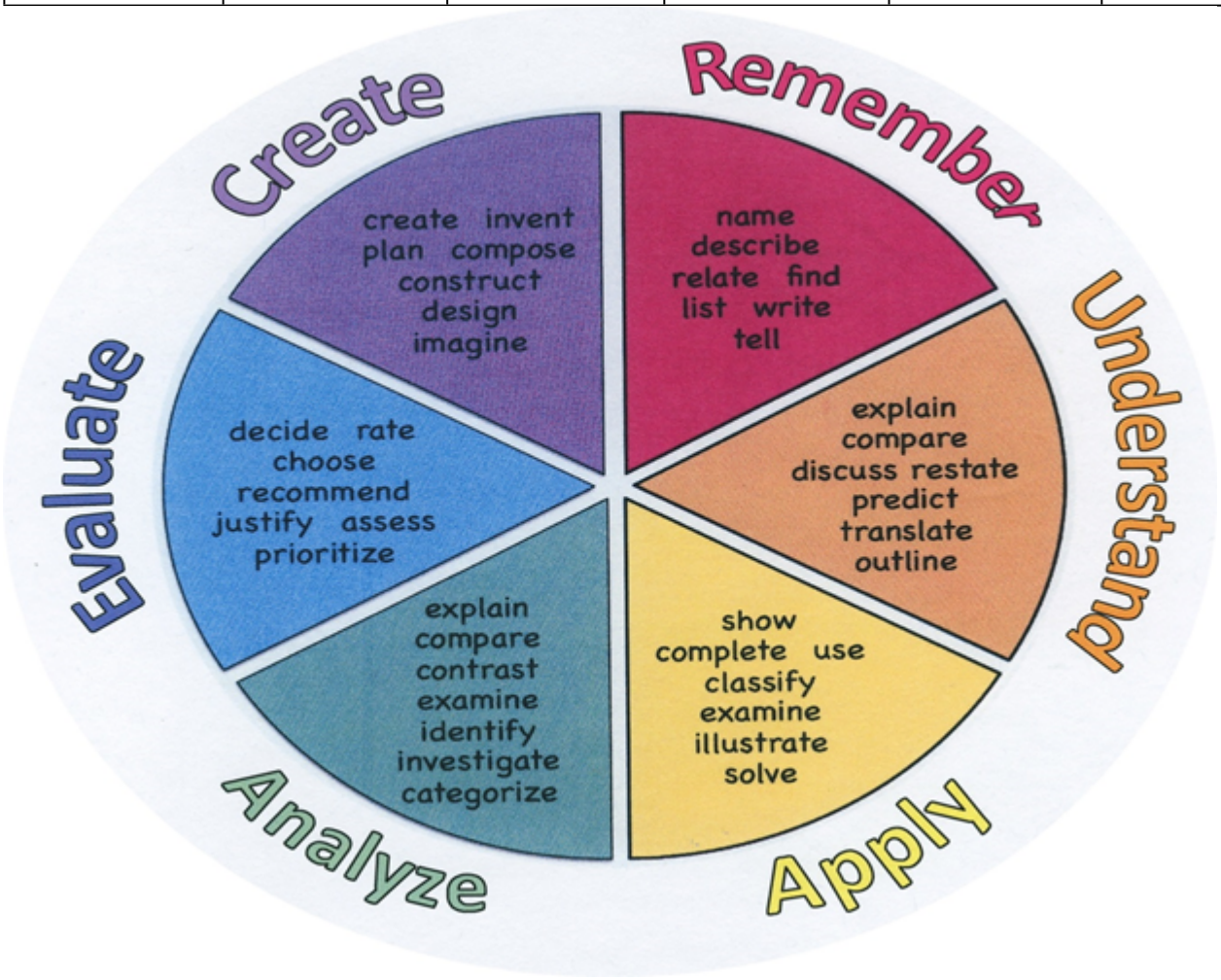
- Identify how computer science is used in a field of entertainment
- Reason about locations on the Game Lab coordinate grid
- Communicate how to draw an image in Game Lab, accounting for shape position, color, and order
- Use a coordinate system to place elements on the screen.
- Sequence code correctly to overlay shapes.
- Use and reason about drawing commands with multiple parameters
- Identify a variable as a way to label and reference a value in a program
- Use variables in a program to store a piece of information that is used multiple times

- Generate and use random numbers in a program
- Update a value stored in a variable
- Create and use a sprite
- Use dot notation to update a sprite's properties
- Place text on the screen using a coordinate plane.
- Use arguments to control how text is displayed on a screen.
- Use a structured process to plan and develop a program.
- Explain how the draw loop allows for the creation of animations in Game Lab
- Use the draw loop in combination with the randomNumber() command, shapes, and sprites to make simple animations
- Use the counter pattern to increment or decrement sprite properties
- Identify which sprite properties need to be changed, and in what way, to achieve a specific movement
- Use conditionals to react to changes in variables and sprite properties
- Use conditionals to react to keyboard input
- Move sprites in response to keyboard input
- Use an if-else statement to control the flow of a program.
- Respond to a variety of types of user input.
- Use conditionals to react to keyboard input or changes in variables / properties
- Sequence commands to draw in the proper order
- Apply an iterator pattern to variables or properties in a loop
- Use the velocity and rotationSpeed blocks to create and change sprite movements
- Describe the advantages of simplifying code by using higher level blocks
- Detect when sprites are touching or overlapping, and change the program in response.
- Describe how abstractions help to manage the complexity of code
- Use sprite velocity with the counter pattern to create different types of sprite movement
- Explain how individual programming constructs can be combined to create more complex behavior
- Model different types of interactions between sprites.
- Describe how abstractions can be built upon to develop even further abstractions
- Create and use functions for blocks of code that perform a single high-level task within a program
- Explain the advantages of using functions in a program
- Explain how functions allow programmers to reason about a program at a higher level
- Implement different features of a program by following a structured project guide
- Identify core programming constructs necessary to build different components of a game
- Implement different features of a program by following a structured project guide
- Independently scope the features of a piece of software
- Create a plan for building a piece of software by describing its major components
- Implement a plan for creating a piece of software

Action Verbs: Below are examples of action verbs associated with each level of the Revised Bloom's Taxonomy.

Remember	Understand	Apply	Analyze	Evaluate	Create
Choose	Classify	Choose	Categorize	Appraise	Combine
Describe	Defend	Dramatize	Classify	Judge	Compose
Define	Demonstrate	Explain	Compare	Criticize	Construct
Label	Distinguish	Generalize	Differentiate	Defend	Design
List	Explain	Judge	Distinguish	Compare	Develop
Locate	Express	Organize	Identify	Assess	Formulate
Match	Extend	Paint	Infer	Conclude	Hypothesize
Memorize	Give Examples	Prepare	Point out	Contrast	Invent
Name	Illustrate	Produce	Select	Critique	Make

Omit Recite Select State Count Draw Outline Point Quote Recall Recognize Repeat Reproduce	Indicate Interrelate Interpret Infer Match Paraphrase Represent Restate Rewrite Select Show Summarize Tell Translate Associate Compute Convert Discuss Estimate Extrapolate Generalize Predict	Select Show Sketch Solve Use Add Calculate Change Classify Complete Compute Discover Divide Examine Graph Interpolate Manipulate Modify Operate Subtract	Subdivide Survey Arrange Breakdown Combine Detect Diagram Discriminate Illustrate Outline Point out Separate	Determine Grade Justify Measure Rank Rate Support Test	Originate Organize Plan Produce Role Play Drive Devise Generate Integrate Prescribe Propose Reconstruct Revise Rewrite Transform



Suggested Activities & Best Practices

Lesson 1: Programming for Entertainment

Overview

Question of the Day: How is computer science used in entertainment?

Students are asked to consider the "problems" of boredom and self expression, and to reflect on how they approach those problems in their own lives. From there, students will explore how computer science in general, and programming specifically, plays a role in either a specific form of entertainment or as a vehicle for self expression.

Purpose

This lesson is intended to kick off this programming unit in a way that engages students of all backgrounds and interests. Though the end point of this unit asks students to develop a game, you should avoid starting out with a strong emphasis on video games. Instead, we attempt to broaden students' perspective about how programming is relevant to a form of entertainment or self expression that is personally engaging. This will provide an anchor for students to come back to throughout the unit as they consider the potential applications of the various programming skills that they learn.

Assessment Opportunities

1. Identify how computer science is used in a field of entertainment

   In the activity guide, look at the "Interesting Fact or Use" section of the second page and make sure students have identified a use of computer science in their chosen fields.

Agenda

- Warm Up (10 min)
- The Entertainment Problem
- Activity (45 min)
- CS in Entertainment
- Researching your Topic
- Research Notes
- Exploring Games with Game Lab
- Wrap Up (5 min)
- Looking Forward

Objectives

Students will be able to: Identify how computer science is used in a field of entertainment

Preparation

- Review the research resources linked in Code Studio
- Print a copy of the activity guide for each group of three students

Warm Up (10 min)

Discussion Goal

The goal here is to get students to reflect more critically on why people seek out entertainment. Students are likely to come up with "boredom" as a common answer, but push them to think more deeply about what their chosen form of entertainment actually does for them - what problem does it solve. Potential answers include:

- Connection with others
- Learning or experiencing new things
- Sparking creativity
- An escape from reality

The Entertainment Problem

Prompt: What is your favorite form of entertainment, and what problem does it solve for you?

Discuss: Allow students to share out their ideas with the group.

Question of the Day: How is computer science used in entertainment?

Activity (45 min)

CS in Entertainment

Remarks

Whether it's movies, music, art, games, or any number of other options, we have many types of entertainment open to us. Today, we're going to look at how computer science plays a role in some of these different fields.

Group: Place students in groups of three. Consider allowing students to group based on common interest as each group will be exploring a field of entertainment together.

Distribute: Give each group a copy of the activity guide.

Entertainment Exploration

During this activity student groups will do some light research into the role that CS and programming play in various fields of entertainment. The primary goal of this activity is to broaden students' perspectives about how programming can be used to make fun or entertaining things. Some of the fields that students could research (such as art, animation, and games) can be directly connected to programs they will write later in this unit, while others may serve more as an inspiration for how the skills that they learn here may be applied in different domains.

Topics

In the activity guide there are a number of potential fields for research. These specific fields were chosen to go along

with resources that are provided on Code Studio, but you can have students look into other fields if they wish.

Researching your Topic

On Code Studio, inside the blue teacher box, there are a handful of useful sites to help students kick off their research. Share the links that you feel are most helpful and appropriate for your class.

Assessment Evidence - Checking for Understanding (CFU)

By identifying the Evidence of Student Learning with Checking for Understanding (CFU) techniques used during the lesson and/or for Closure (Madeline Hunter), please list the variety of means used to access students' learning (e.g. quizzes, tests, academic prompts, observations, homework, journals).

At the end of each lesson, there is a hands on quiz each student will complete before moving on to the next lesson. - Formative

After the completion of each unit there is a test on the unit. The test consists of completing each of the activities taught throughout the unit to work towards building their website or game. - Summative

Students may also have the opportunity of completing tasks one by one instead of building the website or game. This will be graded through completion of the task or observation of their work. - Alternative

- Admit Tickets
- Anticipation Guide
- Common Benchmarks
- Compare & Contrast
- Create a Multimedia Poster
- DBQ's
- Define
- Describe
- Evaluate
- Evaluation rubrics
- Exit Tickets
- Explaining
- Fist- to-Five or Thumb-Ometer
- Illustration
- Journals

- KWL Chart
- Learning Center Activities
- Multimedia Reports
- Newspaper Headline
- Outline
- Question Stems
- Quickwrite
- Quizzes
- Red Light, Green Light
- Self- assessments
- Socratic Seminar
- Study Guide
- Surveys
- Teacher Observation Checklist
- Think, Pair, Share
- Think, Write, Pair, Share
- Top 10 List
- Unit review/Test prep
- Unit tests
- Web-Based Assessments
- Written Reports

Primary Resources & Materials

Code.org

Google Suite

Ancillary Resources

Everfi

Typing.com

Technology Infusion

Students will be using their Chrmebooks daily to access diferent programs.

Alignment to 21st Century Skills & Technology

Mastery and infusion of **21st Century Skills & Technology** and their Alignment to the core content areas is essential to student learning. The core content areas include:

- English Language Arts;
- Mathematics;
- Science and Scientific Inquiry (Next Generation);
- Social Studies, including American History, World History, Geography, Government and Civics, and Economics;
- World languages;
- Technology;
- Visual and Performing Arts.

CRP.K-12.CRP1	Act as a responsible and contributing citizen and employee.
CRP.K-12.CRP1.1	Career-ready individuals understand the obligations and responsibilities of being a member of a community, and they demonstrate this understanding every day through their interactions with others. They are conscientious of the impacts of their decisions on others and the environment around them. They think about the near-term and long-term consequences of their actions and seek to act in ways that contribute to the betterment of their teams, families, community and workplace. They are reliable and consistent in going beyond the minimum expectation and in participating in activities that serve the greater good.
CRP.K-12.CRP2	Apply appropriate academic and technical skills.
CRP.K-12.CRP2.1	Career-ready individuals readily access and use the knowledge and skills acquired through experience and education to be more productive. They make connections between abstract concepts with real-world applications, and they make correct insights about when it is appropriate to apply the use of an academic skill in a workplace situation.
CRP.K-12.CRP3	Attend to personal health and financial well-being.
CRP.K-12.CRP3.1	Career-ready individuals understand the relationship between personal health, workplace performance and personal well-being; they act on that understanding to regularly practice healthy diet, exercise and mental health activities. Career-ready individuals also take regular action to contribute to their personal financial well-being, understanding that personal financial security provides the peace of mind required to contribute more fully to their own career success.
CRP.K-12.CRP4	Communicate clearly and effectively and with reason.

CRP.K-12.CRP4.1	Career-ready individuals communicate thoughts, ideas, and action plans with clarity, whether using written, verbal, and/or visual methods. They communicate in the workplace with clarity and purpose to make maximum use of their own and others' time. They are excellent writers; they master conventions, word choice, and organization, and use effective tone and presentation skills to articulate ideas. They are skilled at interacting with others; they are active listeners and speak clearly and with purpose. Career-ready individuals think about the audience for their communication and prepare accordingly to ensure the desired outcome.
CRP.K-12.CRP5	Consider the environmental, social and economic impacts of decisions.
CRP.K-12.CRP5.1	Career-ready individuals understand the interrelated nature of their actions and regularly make decisions that positively impact and/or mitigate negative impact on other people, organization, and the environment. They are aware of and utilize new technologies, understandings, procedures, materials, and regulations affecting the nature of their work as it relates to the impact on the social condition, the environment and the profitability of the organization.
CRP.K-12.CRP6	Demonstrate creativity and innovation.
CRP.K-12.CRP6.1	Career-ready individuals regularly think of ideas that solve problems in new and different ways, and they contribute those ideas in a useful and productive manner to improve their organization. They can consider unconventional ideas and suggestions as solutions to issues, tasks or problems, and they discern which ideas and suggestions will add greatest value. They seek new methods, practices, and ideas from a variety of sources and seek to apply those ideas to their own workplace. They take action on their ideas and understand how to bring innovation to an organization.
CRP.K-12.CRP7	Employ valid and reliable research strategies.
CRP.K-12.CRP7.1	Career-ready individuals are discerning in accepting and using new information to make decisions, change practices or inform strategies. They use reliable research process to search for new information. They evaluate the validity of sources when considering the use and adoption of external information or practices in their workplace situation.
CRP.K-12.CRP8	Utilize critical thinking to make sense of problems and persevere in solving them.
CRP.K-12.CRP8.1	Career-ready individuals readily recognize problems in the workplace, understand the nature of the problem, and devise effective plans to solve the problem. They are aware of problems when they occur and take action quickly to address the problem; they thoughtfully investigate the root cause of the problem prior to introducing solutions. They carefully consider the options to solve the problem. Once a solution is agreed upon, they follow through to ensure the problem is solved, whether through their own actions or the actions of others.
CRP.K-12.CRP9	Model integrity, ethical leadership and effective management.
CRP.K-12.CRP9.1	Career-ready individuals consistently act in ways that align personal and community-held ideals and principles while employing strategies to positively influence others in the workplace. They have a clear understanding of integrity and act on this understanding in every decision. They use a variety of means to positively impact the directions and actions of a team or organization, and they apply insights into human behavior to change others' action, attitudes and/or beliefs. They recognize the near-term and long-term effects that management's actions and attitudes can have on productivity, morals and organizational culture.
CRP.K-12.CRP10	Plan education and career paths aligned to personal goals.
CRP.K-12.CRP10.1	Career-ready individuals take personal ownership of their own education and career goals, and they regularly act on a plan to attain these goals. They understand their own career interests, preferences, goals, and requirements. They have perspective regarding the pathways available to them and the time, effort, experience and other requirements to pursue each, including a path of entrepreneurship. They recognize the value of each step in the education and experiential process, and they recognize that nearly all career paths

	require ongoing education and experience. They seek counselors, mentors, and other experts to assist in the planning and execution of career and personal goals.
CRP.K-12.CRP11	Use technology to enhance productivity.
CRP.K-12.CRP11.1	Career-ready individuals find and maximize the productive value of existing and new technology to accomplish workplace tasks and solve workplace problems. They are flexible and adaptive in acquiring new technology. They are proficient with ubiquitous technology applications. They understand the inherent risks-personal and organizational-of technology applications, and they take actions to prevent or mitigate these risks.
CRP.K-12.CRP12	Work productively in teams while using cultural global competence.
CRP.K-12.CRP12.1	Career-ready individuals positively contribute to every team, whether formal or informal. They apply an awareness of cultural difference to avoid barriers to productive and positive interaction. They find ways to increase the engagement and contribution of all team members. They plan and facilitate effective team meetings.
CAEP.9.2.8.B	Career Exploration
CAEP.9.2.8.B.1	Research careers within the 16 Career Clusters ® and determine attributes of career success.
CAEP.9.2.8.B.2	Develop a Personalized Student Learning Plan with the assistance of an adult mentor that includes information about career areas of interest, goals and an educational plan.
CAEP.9.2.8.B.3	Evaluate communication, collaboration, and leadership skills that can be developed through school, home, work, and extracurricular activities for use in a career.
CAEP.9.2.8.B.4	Evaluate how traditional and nontraditional careers have evolved regionally, nationally, and globally.
CAEP.9.2.8.B.5	Analyze labor market trends using state and federal labor market information and other resources available online.
CAEP.9.2.8.B.6	Demonstrate understanding of the necessary preparation and legal requirements to enter the workforce.
CAEP.9.2.8.B.7	Evaluate the impact of online activities and social media on employer decisions.

21st Century Skills/Interdisciplinary Themes

- Communication and Collaboration
- Creativity and Innovation
- Critical thinking and Problem Solving
- ICT (Information, Communications and Technology) Literacy
- Information Literacy
- Life and Career Skills
- Media Literacy

21st Century Skills

- Civic Literacy

- Environmental Literacy
- Financial, Economic, Business and Entrepreneurial Literacy
- Global Awareness
- Health Literacy

Differentiation

All will be used based on IEP's, 504's, G&T, and Student Needs.

* Extra time to complete assignments.

Differentiations:

- Small group instruction-Invite students to a group meeting based on student needs
- Small group assignments
- Extra time to complete assignments
- Pairing oral instruction with visuals
- Repeat directions
- Use manipulatives
- Center-based instruction
- Token economy
- Study guides
- Teacher reads assessments allowed
- Scheduled breaks
- Rephrase written directions
- Multisensory approaches
- Additional time-Student will be given additional time as needed
- Preview vocabulary-A shared google doc will exist of all vocabulary
- Preview content & concepts
- Story guides
- Behavior management plan
- Highlight text
- Student(s) work with assigned partner
- Visual presentation
- Assistive technology
- Auditory presentations
- Large print edition
- Dictation to scribe
- Small group setting

Hi-Prep Differentiations:

- Alternative formative and summative assessments
- Choice boards
- Games and tournaments
- Group investigations
- Guided Reading
- Independent research and projects
- Interest groups
- Learning contracts

- Leveled rubrics-Students will have extension activities
- Literature circles
- Multiple intelligence options
- Multiple texts
- Personal agendas
- Project-based learning
- Problem-based learning
- Stations/centers
- Think-Tac-Toes
- Tiered activities/assignments
- Tiered products
- Varying organizers for instructions

Lo-Prep Differentiations

- Choice of books or activities
- Cubing activities
- Exploration by interest
- Flexible grouping
- Goal setting with students-set goals of what students need to achieve and complete to show understanding
- Jigsaw
- Mini workshops to re-teach or extend skills-Mini workshops will be available for students who need re-teaching of concepts
- Open-ended activities
- Think-Pair-Share
- Reading buddies
- Varied journal prompts
- Varied supplemental materials

Special Education Learning (IEP's & 504's)

* Students work with an assigned partner.

- printed copy of board work/notes provided
- additional time for skill mastery
- assistive technology
- behavior management plan
- Center-Based Instruction
- check work frequently for understanding
- computer or electronic device utilizes
- extended time on tests/ quizzes
- have student repeat directions to check for understanding

- highlighted text visual presentation
- modified assignment format
- modified test content
- modified test format
- modified test length
- multi-sensory presentation
- multiple test sessions
- preferential seating
- preview of content, concepts, and vocabulary
- Provide modifications as dictated in the student's IEP/504 plan
- reduced/shortened reading assignments
- Reduced/shortened written assignments
- secure attention before giving instruction/directions
- shortened assignments
- student working with an assigned partner
- teacher initiated weekly assignment sheet
- Use open book, study guides, test prototypes

English Language Learning (ELL)

* Students can be assigned a partner for tutoring & assistance in class.

- teaching key aspects of a topic. Eliminate nonessential information
- using videos, illustrations, pictures, and drawings to explain or clarif
- allowing products (projects, timelines, demonstrations, models, drawings, dioramas, poster boards, charts, graphs, slide shows, videos, etc.) to demonstrate student's learning;
- allowing students to correct errors (looking for understanding)
- allowing the use of note cards or open-book during testing
- decreasing the amount of workpresented or required
- having peers take notes or providing a copy of the teacher's notes
- modifying tests to reflect selected objectives
- providing study guides
- reducing or omitting lengthy outside reading assignments
- reducing the number of answer choices on a multiple choice test
- tutoring by peers
- using computer word processing spell check and grammar check features
- using true/false, matching, or fill in the blank tests in lieu of essay tests

At Risk

* Students will be allowed to correct errors on assignments.

- allowing students to correct errors (looking for understanding)
- teaching key aspects of a topic. Eliminate nonessential information
- allowing products (projects, timelines, demonstrations, models, drawings, dioramas, poster boards, charts, graphs, slide shows, videos, etc.) to demonstrate student's learning
- allowing students to select from given choices
- allowing the use of note cards or open-book during testing
- collaborating (general education teacher and specialist) to modify vocabulary, omit or modify items to reflect objectives for the student, eliminate sections of the test, and determine how the grade will be determined prior to giving the test.
- decreasing the amount of workpresented or required
- having peers take notes or providing a copy of the teacher's notes
- marking students' correct and acceptable work, not the mistakes
- modifying tests to reflect selected objectives
- providing study guides
- reducing or omitting lengthy outside reading assignments
- reducing the number of answer choices on a multiple choice test
- tutoring by peers
- using authentic assessments with real-life problem-solving
- using true/false, matching, or fill in the blank tests in lieu of essay tests
- using videos, illustrations, pictures, and drawings to explain or clarify

Talented and Gifted Learning (T&G)

* Utilize project based learning for greater depth of knowledge.

- Above grade level placement option for qualified students
- Advanced problem-solving
- Allow students to work at a faster pace
- Cluster grouping
- Complete activities aligned with above grade level text using Benchmark results
- Create a blog or social media page about their unit
- Create a plan to solve an issue presented in the class or in a text
- Debate issues with research to support arguments
- Flexible skill grouping within a class or across grade level for rigor
- Higher order, critical & creative thinking skills, and discovery
- Multi-disciplinary unit and/or project

- Teacher-selected instructional strategies that are focused to provide challenge, engagement, and growth opportunities
- Utilize exploratory connections to higher-grade concepts
- Utilize project-based learning for greater depth of knowledge

Sample Lesson

Using the template below, please develop a **Sample Lesson** for the first unit only.

Unit Name:

NJSLS:

Interdisciplinary Connection:

Statement of Objective:

Anticipatory Set/Do Now:

Learning Activity:

Student Assessment/CFU's:

Materials:

21st Century Themes and Skills:

Differentiation/Modifications:

Integration of Technology: